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| LEE & HAYES, PLLC 421 W. RIVERSIDE AVE. SUITE 500 SPOKANE, WA 99201 | | | TAKAOKA, DEAN O | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2817 | |

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,727

Applicant(s)

HARRES, DANIEL N.

Examiner

Dean O. Takaoka

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21-32 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirosaka et al. (U.S. patent No. 4,988,963).

Claim 1.

Shirosaka et al. shows a connector module, comprising: a first member (16a) having at least one first conductive lead (14a) disposed therein and a dielectric portion (60a) coupled to an end portion of the at least one first conductive lead; and a second member (16b) having at least one second conductive lead (14b) disposed therein, the first and second members being coupled such that respective end portions of the first and second conductive leads are operatively positioned and spaced apart by the dielectric portion (60a and/or 60b), the dielectric portion being adapted to capacitively couple the respective end portions of the first and second conductive leads and to allow signals to be transmitted therethrough.

Claim 2.

Wherein the dielectric portion comprises a first dielectric portion (60a), further comprising a second dielectric portion (60b) coupled to the end portion of the at least one second conductive lead (col. 4, lines 50-54).

Art Unit: 2817

Claim 5.

Wherein the thickness of the dielectric portion is approximately 1 mm (col. 1, lines 50-55).

Claims 1 – 3, 5, 6, 9 – 15 and 28 – 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. (U.S. patent No. 5,557,290).

Claim 1.

Watanabe et al. shows a connector module, comprising: a first member (71) having at least one first conductive lead (41) disposed therein and a dielectric portion (1) coupled to an end portion of the at least one first conductive lead; and a second member (72) having at least one second conductive lead (42) disposed therein, the first and second members being coupled such that respective end portions of the first and second conductive leads are operatively positioned and spaced apart by the dielectric portion, the dielectric portion being adapted to capacitively couple the respective end portions of the first and second conductive leads and to allow signals to be transmitted therethrough.

Claim 2.

Wherein the dielectric portion comprises a first dielectric portion (1), further comprising a second dielectric portion (1; where dielectric 1 comprises different portions corresponding to the different plural capacitive connections such as in Figs. 8, 11a et al.) coupled to the end portion of the at least one second conductive lead (col. 4, lines 50-54).

Art Unit: 2817

Claim 3.

Wherein the at least one first conductive lead (41) includes a pair of first conductive leads (51 – Fig. 8) having a corresponding pair of dielectric portions coupled to end portions thereof, and wherein the at least one second conductive lead (42) includes a pair of second conductive leads (52).

Claim 5:

Where the thickness of the dielectric portion is approximately 1mm (where Watanabe teaches the antenna coupler mounted on a car glass, body or house walls – col. 1, lines 38-48; and where the term “approximately” is broad where the range is not defined by the claim, thus where a car glass or house wall, i.e. dry wall being “approximately” 1mm).

Claim 6:

Where the dielectric portion has a dielectric constant within the range of approximately ten (where 1 is glass; where the dielectric constant of glass is approximately 7.5).

Claim 9.

An electronic system, comprising: a communications module adapted to at least one of transmit and receive a data signal; a signal lead; and a capacitive coupling module (CPL – Figs. 24A or 24B) coupled between the data communications module (TR – Fig. 18) and the signal lead (41), the capacitive coupling module including a first member having at least one first conductive lead (41) disposed therein and a dielectric portion (1) coupled to an end portion of the at least one first conductive lead; and a

second member (42) having at least one second conductive lead disposed therein, the first and second members being coupled such that respective end portions of the first and second conductive leads are operatively positioned and spaced apart by the dielectric portion (1), the dielectric portion being adapted to capacitively couple the respective end portions of the first and second conductive leads and to allow signals to be at least one of transmitted and received therethrough.

Claims 10 and 12.

Wherein the communications module comprises a transmitter and receiver module (TR – Fig. 18).

Claim 11.

Wherein the transmitter module (TR – Fig. 18 et al.) comprises a transmitter coupled to a gain (inherent where Fig. 32 shows gain and where the antenna, i.e. antenna signal, would further inherently comprise gain), and a low-pass filter (107 – Fig. 31 or 107A – Fig. 33; where the LC components, series L and shunt C to ground, are arranged in a low-pass configuration) coupled between the gain and the signal lead (41 and/or 300).

Claim 13.

Wherein the receiver module comprises a receiver coupled to a gain, and a low-pass filter coupled between the gain and the signal lead (Figs. 31-33).

Claim 14.

Wherein the dielectric portion comprises a first dielectric portion, further comprising a second dielectric portion coupled to the end portion of the at least one

Art Unit: 2817

second conductive lead (where dielectric 1 comprises different portions corresponding to the different plural capacitive connections such as in Figs. 8, 11a et al.).

Claim 15.

Wherein the at least one first conductive lead (41) includes a pair of first conductive leads (51 – Fig. 8) having a corresponding pair of dielectric portions coupled to end portions thereof, and wherein the at least one second conductive lead (42) includes a pair of second conductive leads (52).

Claim 28.

A method of transmitting signals (generic, where the method defines or is defined by the final product), comprising: providing a communications module adapted to at least one of transmit and receive a data signal (TR – Fig. 18 et al.), providing a signal lead (41, 42); providing a capacitive coupling module (CPL) coupled between the data communications module and the signal lead; and capacitively transmitting the data signal between the communications module and the signal lead.

Claims 29 and 30.

Wherein providing a communications module comprises a transmitter or receiver module (TR – Fig. 18).

Claim 31.

Comprising filtering the data signal through a low-pass filter (107 – Fig. 31 or 107A – Fig. 33).

Claim 32.

The method of Claim 28, wherein providing a capacitive coupling module comprises providing a capacitive coupling module including a first member having at least one first conductive lead disposed therein and a dielectric portion coupled to an end portion of the at least one first conductive lead; and a second member having at least one second conductive lead disposed therein, the first and second members being coupled such that respective end portions of the first and second conductive leads are operatively positioned and spaced apart by the dielectric portion, the dielectric portion being adapted to capacitively couple the respective end portions of the first and second conductive leads and to allow signals to be at least one of transmitted and received therethrough.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirotsuka et al.

Claim 4:

Shirotsuka et al. teaches a capacitive coupling module (discussed in the reasons for rejection of claim 1 above) including coupled sections comprising a dielectric spacer and conductive leads but are silent with respect to specific sizes of the leads.

It would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 2817

invention was made to have substituted the generic conductive leads disclosed by Shirosaka et al. with well-known gauges such as size 12 leads. Such a substitution would have been obvious where different AWG wire gauges are well-known in the art for coaxial cables; where the specific size 12 wire gauge does not appear critical to the invention thus where any substitution of well-known wire gauges for coaxial cables would have been obvious.

Claim 7:

Where Shirosaka et al. teaches the dielectric portion of approximately 1mm (col. 1, line 54) and where the dielectric is glass (where the term "approximately" is broad where the range is not defined by the claim, thus glass having a dielectric constant of approximately three).

Claim 4, 7, 8, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al.

Watanabe et al. teaches a capacitive coupling module (discussed in the reasons for rejection of claim 1 above) including coupled sections comprising a dielectric spacer and conductive leads, further where the dielectric portion is approximately 1mm (or 0.5mm; discussed in the reasons for rejection of claim 5 above) and the dielectric constant is approximately three (where the term "approximately" is broad where the limits are not defined by the claim, where Watanabe et al. teaches a glass dielectric where the dielectric of glass is "approximately" three) but is silent with respect to specific sizes of the leads.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the generic conductive leads disclosed by Watanabe et al. with well-known gauges such as size 12 leads. Such a substitution would have been obvious where different AWG wire gauges are well-known in the art for coaxial cables; where the specific size 12 wire gauge does not appear critical to the invention thus where any substitution of well-known wire gauges for coaxial cables would have been obvious.

Claims 9 – 15 and 28 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirosaka et al. in view of Watanabe et al.

Shirosaka et al. teaches a capacitive coupling module (discussed in the reasons for rejection of claim 1 above) including a coupled section comprising first and second conductive leads but is silent with respect to associated components or modules such as well-known transmit and receive module/s.

Watanabe et al. teaches a similar capacitive coupling module, further comprising a well-known transmit and receive module including low-pass filter and gain.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the coupling device disclosed by Shirosaka et al. with the well-known transmit and receive module disclosed by Watanabe et al. Such a modification would have been obvious where the coupling device of Shirosaka et al. is for use in a communication or satellite system (abstract) where reception and/or transmission of signals is well-known in the art and where Watanabe et al. teaches a

Art Unit: 2817

similar capacitive coupling module used in an communication device comprising an antenna and a well-known transmit and receive module, thus suggesting the obviousness of the modification.

Claims 18 and 21 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alford in view of Watanabe et al.

Alford shows an aerospace vehicle, comprising: a fuselage; a propulsion system operatively coupled to the fuselage (inherent); and an electronic system disposed within the fuselage and including a communications module adapted to at least one of transmit and receive a data signal (Fig. 1); communications including a signal lead; and a capacitive coupling module (11) coupled between the data module and the signal lead, the capacitive coupling module a first member having at least one first and second conductive lead disposed therein but does not show and a dielectric portion coupled to an end portion of the at least one first conductive lead; and a second member having at least one second conductive lead disposed therein, the first and second members being coupled such that respective end portions of the first and second conductive leads are operatively positioned and spaced apart by the dielectric portion, the dielectric portion being adapted to capacitively couple the respective end portions of the first and second conductive leads and to allow signals to be at least one of transmitted and received therethrough.

Art Unit: 2817

Watanabe et al. shows a capacitive coupling device for an antenna system comprising transceiver, low-pass filter, and gain (discussed in the reasons for rejection of the claims above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the coupler disclosed by Alford with the capacitive coupler disclosed by Watanabe et al. Such a modification would have been obvious where the devices of both Alford and Watanabe et al. are for antenna systems utilizing transmitter/receiver modules where the antenna is an exterior mounted device and where Watanabe et al. provides the further advantage of providing a coupling device where no hole is needed eliminating drafts or leaks in the body (Watanabe et al. – col. 1, lines 40-44), thus suggesting the obviousness of the modification.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O. Takaoka whose telephone number is (571) 272-1772. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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